



**SOME TIPS ABOUT  
PESTICIDES AND THEIR  
ALTERNATIVES**

**2006**



United States  
Environmental Protection  
Agency  
Region 7  
Iowa, Kansas, Missouri, and Nebraska

“The vet gave my dog  
medicine for his fleas,  
but the fleas are all  
over my house too!”

“I keep finding  
sawdust near the  
bathroom window sill!”

“A bag of rice has  
been chewed through  
and I see  
droppings!”

## DO YOU REALLY NEED A PESTICIDE?

Many homeowners treat pest problems with pesticide products bought during weekly shopping. However, these products are a potential hazard to people and the environment. Your home, and homes you and your family visit, may hold more pesticides than you expect. Pesticides pose a potential hazard to people and the environment, particularly when applied, stored or disposed of improperly.

There are several activities that you can do before you decide to use a pesticide. If you are practicing good sanitation, doing routine home maintenance and addressing moisture problems, whether you realize it or not, you are preventing pests and taking part in the cultural control portion of Integrated Pest Management (IPM).

### INTEGRATED PEST MANAGEMENT (IPM)

A process of balanced use of cultural, biological and chemical procedures that are environmentally compatible. It is a philosophy of pest control that uses the best combination of these methods. IPM promotes a healthy environment, is cost effective, and may offer longer-lasting results using fewer pesticides.

Interior or structural pest management, using IPM, is made up of several steps: noticing the damage, identifying the pest, controlling the pest, and preventing the pest from returning to your home.

*IPM promotes a healthy  
environment, is cost  
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using fewer pesticides.*



## DO YOU HAVE PESTS IN YOUR HOME?

Know that pests need air, moisture, food and shelter to survive. Eliminating these elements is the key to eliminating the pest.

Pest damage comes in many forms, or sometimes, you may actually see the pest itself. Signs that pests may be in your home include: mold or moisture, mouse droppings, sawdust from carpenter ants, termites (known as “swarmers” seen during spring and fall months), and unwanted birds taking daily shelter in the eaves of your home.

Sometimes damage may not be easily seen. Mud tunnels on outside walls and wood damage indicate the presence of termites. You can identify what’s causing the problem through research at your local library or bookstore. There are also pest identification Web sites that you can search and explore.

### PESTS CAN...

- ♦ seriously damage human and animal health by introducing allergens and disease pathogens.
- ♦ contaminate human and animal foodstuffs.
- ♦ damage the structural integrity of your home.
- ♦ compromise the safety of your home by chewing on wires or furnishings.



*Pests need air, moisture, food and shelter to survive – eliminating these elements is the key to eliminating the pest.*

Pests may enter your home in a number of ways. Mice can enter through small cracks in the foundation (as small as 1/4”) or under doors. Cockroaches can flatten their bodies and crawl through a crack thinner than a dime. Your family pet may bring fleas into your home. Vegetation planted directly against buildings may provide shelter and runways for rodents.

Environmental conditions such as moisture or decaying wood may also attract pests.

### INTERIOR PREVENTION

- ♦ Exclusionary work: fill in cracks and holes, areas where utility lines enter and exit, and pipe chases near your washer and sinks.
- ♦ Use tight-fitting lids and can liners for trash and garbage. Periodically wash containers with detergent and hot water.
- ♦ Store cereals, grains, rice, and pet foods in containers with tight-fitting lids.
- ♦ Sweep up crumbs and food debris daily.
- ♦ Remove pet food when pets are finished eating.
- ♦ Do not leave food or food dishes uncovered or exposed overnight.
- ♦ Maintain your pet’s fur and skin health.
- ♦ Repair holes in window screens.
- ♦ Repair leaks, such as in sinks, pipes and washing machines.

*Use tight-fitting lids and can liners for trash and garbage.*



## PREVENTION

### EXTERIOR PREVENTION

- ◆ Stack woodpiles away from your house and off the ground.
- ◆ Keep vegetation away from your house. If you like climbing vines, use a trellis as an anchor, not the side of the house.
- ◆ Keep tree branches from over-hanging your house. Pests (including squirrels) can use branches to gain access to your home.
- ◆ Clean gutters and drain spouts of debris, such as leaves and twigs.
- ◆ Install a chimney cap to prevent larger animals from entering your home via the chimney.
- ◆ Remove outdoor “bug zappers.” They are not effective, and may attract more insects than they kill.
- ◆ Eliminate standing water traps. Empty pails and old tires, and sweep off puddles. Standing water offers breeding grounds for mosquitoes.



*Keep vegetation away from your house. If you like climbing vines, use a trellis as an anchor, not the side of the house.*

## CONTROL

Non-chemical methods such as traps, snap traps, and glue boards can be used for mice and rats. Mechanical controls such as fly swatters and sticky traps may be effective on insect pests. Some pests are not easy to evict from your home, and a chemical pesticide may be required to eliminate them from your home.

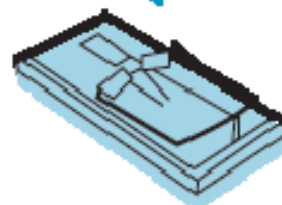
If pesticide use is one of your options, here are some things to consider before you buy:

### WHAT TYPE OF PESTICIDE DO YOU NEED?

- ◆ *Insecticides* control insects such as carpenter ants, silver fish, and cockroaches.
- ◆ *Rodenticides* control rodents such as Norway rats and mice.



*Non-chemical methods such as traps, snap traps, and glue boards can be used for mice and rats.*



## USING PESTICIDES

### SHOPPING TIPS:

- ◆ Know the size of the area to be treated; take careful measurements.
- ◆ Purchase only the amount of product needed for the application.
- ◆ If possible, purchase ready-to-use formulations to avoid mixing, and some storage and disposal problems.
- ◆ Calculate the correct amount, especially if the pesticide is a concentrate that must be diluted. Using too much product may damage your house and cause harm to yourself, pets, and the environment. However, using too little product may not correct your pest problem. More is NOT better.
- ◆ Check for application equipment you need (such as a hand-held sprayer). If you have it already, does it work properly? Do you need new hoses or nozzles?
- ◆ Pick up any personal protection equipment required such as gloves or goggles.

### WHAT SHOULD YOU DO BEFORE APPLYING A PESTICIDE?

- ◆ Pull back rugs, if possible.
- ◆ Open or close doors and windows for ventilation as the label directs you.
- ◆ Remove items that may be stored in the area, pet food bowls, toys from the floor, or food and dishes stored in cabinets.
- ◆ Check the area for other people, including children or pets.



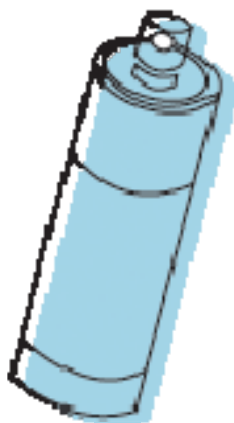
*When applying a pesticide, remove items that may be stored in the area, such as pet food bowls.*

*Outdoor “bug zappers” are not effective, and may attract more insects than they kill.*

## USING PESTICIDES

### HOW DO YOU APPLY AND HANDLE THE PESTICIDE SAFELY?

- ◆ Use common sense and realize the label may not tell what to do in all situations.
- ◆ Choose the correct form: dusts, sprays, liquids or granules.
- ◆ Have the correct measuring tools available (measuring cups or spoons). Use these only for measuring pesticides.
- ◆ Pay attention to additional label instructions such as ventilation. Can windows be open?
- ◆ Never leave the pesticide unattended when using, especially near children and pets.
- ◆ Don't eat, drink or smoke while handling pesticides. Wash your face and hands after using the pesticide, and before you smoke, eat, or use the toilet.
- ◆ Never use pesticides that are not in the original container, do not have the label firmly attached, or do not specify HOME or INDOOR use on the label.



*Choose the correct form of pesticide for the job: dusts, sprays, liquids or granules.*

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### AFTER YOU'VE APPLIED THE PESTICIDE, WHAT'S NEXT?

- ◆ Be patient! Depending on the type of pesticide product, it may take some time before control is seen. Frequently, there can be several areas in your home where pests live. It will take time to eliminate the pests from the various sources.
- ◆ Watch for your results; create a diary to record your successes and failures.

### Did You Know?

Almost half of all households with children under the age of five have at least one pesticide stored in an unlocked cabinet less than four feet off the ground, often within reach of children.

*Never leave the pesticide unattended when using, especially near children and pets.*



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## WHAT'S ON THE LABEL?

### TARGET PEST

Listing of pest(s) controlled. Frequently, more than one pest will be listed on the label.

### FORM OF PESTICIDE

Products are sold as liquids, aerosols, granules, dusts, and wettable powders. Note: Many pesticides are sold as "ready to use." These products require no mixing or measuring, and may be easier to use.

### INDOOR OR OUTDOOR USE

The label will tell you if the product must be used indoors or outdoors. Do not use a garden pesticide indoors.

### EPA REGISTRATION NUMBER

Indicates that EPA has reviewed the product, and it can be used according to label directions.

### ACTIVE INGREDIENTS

The ingredient(s) that will control the target pest.

### SIGNAL WORDS

Communicate the potential for making the user sick. Pesticides vary in their toxicity to humans. Most of the products for use in and around the home will have "caution" or "warning" as the signal word.

#### CAUTION

least harmful, but must be handled with care

#### WARNING

moderately hazardous

#### DANGER

very poisonous/irritating – may have skull-and-crossbones symbol

### PRECAUTIONARY STATEMENTS

Tells if protective clothing, such as gloves or goggles, are required. Can also instruct you to keep children and pets away from the pesticide when in use, and the treated area once the application is complete.

### ENVIRONMENTAL HAZARDS

Listing of possible sites of environmental damage: water, plants, birds, fish, and other animals.

### DIRECTIONS FOR USE

How to apply the product, where the product can be applied, and how much to use.

### FIRST AID INSTRUCTIONS

Actions to take in an emergency situation. If you need to contact poison control or require medical assistance, have the label handy to help emergency personnel.

### STORAGE AND DISPOSAL INSTRUCTIONS

How to store and dispose of the pesticide.

**USE PESTICIDES SAFELY!**  
**READ THE LABEL!**  
**IT'S THE LAW!**



### STORAGE

- ◆ Pesticides should be stored in the original labeled container, covered tightly.
- ◆ Never store pesticides in the application equipment or in containers that hold food or beverages.
- ◆ Do not store the product near feed, seed or heat sources, or near flammable materials such as gasoline or oily rags.
- ◆ Temperature and humidity may affect pesticides. The label will give you specifics.
- ◆ Keep pesticides out of the reach of children and pets, preferably in a locked cabinet.

### DISPOSAL

- ◆ The label offers general disposal instructions.
- ◆ Containers should be rinsed three times.
- ◆ Potentially reusable containers should be punctured to prevent reuse.
- ◆ Old pesticides should be disposed of. They may no longer be effective or safe to use.
- ◆ Improper disposal can lead to health issues for humans and pets, and environmental contamination.
- ◆ NEVER pour pesticides down a drain, toilet, or curbside catch basin.
- ◆ NEVER reuse pesticide containers for any purpose.
- ◆ NEVER put pesticides in containers used for food purposes.
- ◆ Disposal problems can be prevented by buying only the amount needed to do the job.
- ◆ Contact your local government, or state agriculture or environmental agency, about household hazardous waste collection programs.

Some pest problems go beyond the abilities of the homeowner. Structural damage or infestations may require the services of a pest management specialist. Call several companies to arrange for an inspection and cost estimate.

Once you have narrowed your list of specialists, you may contact your state pesticide regulatory agency for information regarding licensing of pest management technicians, complaints or violations they may have investigated and have on file.

If you have performed any of your own pest management activities, tell the pest management specialist, especially if pesticides were used. Let them know what pesticide was used, where, and how much. They will also need to know if you have children or pets, and if there are people in your home with special health concerns.

### QUESTIONS TO ASK

- ◆ What is the pest diagnosis?
- ◆ What may have caused the pest problem?
- ◆ What are the non-chemical alternatives?
- ◆ What pesticide(s) does the specialist propose to use, and information about the product(s)?
- ◆ How many visits will be required?
- ◆ When can results be expected?
- ◆ What exactly does the job entail - drilling foundation holes, baiting in wall voids?
- ◆ What is the estimated cost of the work, and any additional fees that may apply?
- ◆ Do you need to leave the house for any period of time after the application?
- ◆ How can future problems be prevented?



## KEEP THEM AWAY

### INSIDE

- ◆ Keep all food in rodent/insect-proof glass or plastic resealable containers.
- ◆ Keep counter and surfaces free of food scraps and crumbs.
- ◆ Garbage should be in tightly-covered containers.
- ◆ Don't leave pet foods out uncovered for long periods of time.
- ◆ Fix leaks in plumbing.
- ◆ Caulk cracks and crevices to control roaches and other pests.
- ◆ Keep out flying insects using screens. Patch any holes or damage in screens.
- ◆ Attach door sweeps to prevent pests and save energy.

### OUTSIDE

- ◆ Locate wood piles away from your house; they can shelter rodents and the wood may have termites.
- ◆ Keep bark mulch away from the foundation of your house; don't place new mulch on top of old.
- ◆ Remove old wooden posts and tree stumps.
- ◆ Do not put meat scraps in your compost pile.
- ◆ Trim vegetation away from your house.
- ◆ Resist the temptation to install bird feeders near your house. Locate the feeding station away from your house. Bird feed is also feed for nuisance animals.

## FOR FURTHER INFORMATION

- ◆ Your local home and garden center, library, and bookstore are resources for information on indoor pest management or assistance in problem diagnosis.
- ◆ Surf the web! Type in key words, and explore!
- ◆ National Pesticide Information Center (NPIC): 1-800-858-PEST(7378). This is a 24-hour toll-free hotline for assistance in emergencies and information about safety, health and environmental effects, spill cleanup and disposal procedures, and referrals.

### NATIONAL POISON CONTROL CENTER

In a pesticide poisoning, have the label with you when you call. All across the U.S., the poison control toll-free phone number is 1-800-222-1222.

This number will connect you to the nearest poison control center.

*U.S. Environmental  
Protection Agency (EPA)  
Region 7 Customer Call  
Center: 1-800-223-0425*



## FOR FURTHER INFORMATION

State pesticide regulatory agencies in Region 7 (including Iowa, Kansas, Missouri & Nebraska) provide information about pesticide regulations, investigate consumer complaints and possible pesticide violations, and administer the pesticide licensing and certification program in each state.

### STATE REGULATORY AGENCIES IN REGION 7

Iowa Department of Agriculture and Land Stewardship: 515-281-8591

Kansas Department of Agriculture: 785-296-3786

Missouri Department of Agriculture: 573-751-2462

Nebraska Department of Agriculture: 402-471-2394  
(Toll-free: 1-877-800-4080)

### U.S. ENVIRONMENTAL PROTECTION AGENCY (EPA) REGION 7 OFFICE CUSTOMER CALL CENTER: Toll-free at 1-800-223-0425

EPA is the federal agency responsible for pesticide regulation. No pesticide can be legally sold or used in the U.S. unless its label has an EPA registration number. EPA publications on pesticide-related issues can be ordered by calling our Customer Call Center. More information is also available on the Internet at:

[www.epa.gov/region07/pesticides/index.htm](http://www.epa.gov/region07/pesticides/index.htm)

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